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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,188	07/09/2001	W. Benjamin Payne		5756

7590

09/16/2002

Frank C. Price
13812 Sand-hurst PL
Santa And, CA 92705

EXAMINER

FRANK, RODNEY T

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 09/16/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE
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Paper No. 6

Notice of Non-Compliant Amendment (37 CFR 1.121)

The amendment filed on 9/3/02 is considered non-compliant because it has failed to meet the requirements of 37 CFR 1.121, as amended on September 8, 2000 (see *65 Fed. Reg. 54603*, Sept. 8, 2000, and *1238 O.G. 77*, Sept. 19, 2000). In order for the amendment to be compliant, applicant must supply the following omissions or corrections in response to this notice.

THE FOLLOWING ITEMS ARE REQUIRED FOR COMPLIANCE WITH RULE 1.121 (APPLICANT NEED NOT RE-SUBMIT THE ENTIRE AMENDMENT):

- ☐ 1. A clean version of the replacement paragraph(s)/section(s) is required. See 37 CFR 1.121(b)(1)(ii).
- ☐ 2. A marked-up version of the replacement paragraph(s)/section(s) is required. See 37 CFR 1.121(b)(1)(iii).
- ☒ 3. A clean version of the amended claim(s) is required. See 37 CFR 1.121(c)(1)(i).
- ☐ 4. A marked-up version of the amended claim(s) is required. See 37 CFR 1.121(c)(1)(ii).

Explanation: See attached - no clean version of claim(s)

(LIE: Please provide specific details for correction to assist the applicant. For example, "the clean version of claim 6 is missing.")

For further explanation of the amendment format required by 37 CFR 1.121, see MPEP § 714 and the USPTO website at <http://www.uspto.gov/web/offices/dcom/olia/pbg/sampleaf.pdf>. A condensed version of a sample amendment format is attached.

- ☐ **PRELIMINARY AMENDMENT:** Unless applicant **supplies the omission or correction** to the preliminary amendment in compliance with revised 37 CFR 1.121 noted above within ONE MONTH of the mail date of this letter, examination on the merits may commence without entry of the originally proposed preliminary amendment. This notice is not an action under 35 U.S.C. 132, and this ONE MONTH time limit is not extendable.
- ☒ **AMENDMENT AFTER NON-FINAL ACTION:** Since the above-mentioned reply appears to be *bona fide*, applicant is given a TIME PERIOD of ONE MONTH or THIRTY DAYS from the mailing of this notice, whichever is longer, within which to **supply the omission or correction noted above** in order to **avoid abandonment**. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136(a).

Sherry Davis 9/16/02
Legal Instruments Examiner (LIE)



COPY OF PAPER
ORIGINALLY FILED

#52 (NE)
Bmdt
SDavis
9/16/02

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: W. B. Payne

Group Art: 2856

Serial No. 09/900,188

Examiner: Hezron Williams/R. T. Frank

5 Filed: 07/09/01

Filed For: Ullage Meter for a Tank of Compressed Gas at Elevated Temperature

10 THE HONORABLE COMMISSIONER OF PATENTS AND TRADEMARKS
Washington D. C.

August 30, 2002
Santa Ana, CA

Dear Sir:

15 In response to the office action dated June 6, 2002, we submit the following amendment
and request for reconsideration.

IN THE CLAIMS

Please amend the claims as follows:

20 Claim 1. An ullage meter for a container of compressed gas[, comprising] using a color-
changing coating on said container outer wall, said coating being formed in distinct areas, each
area sensitive to a particular color-changing temperature while said particular temperature
prevails, each area having a number imprinted within it, [the] said number being made visible by
said color changing, comprising ,
[the] said number defining the future ullage in said container once it [has] shall have cooled to a
25 particular temperature.

Claim 2. Delete

Claim 3. Delete

New Claim 7 An ullage meter for a container of freshly compressed gas comprising,
an indicating meter sensitive to the temperature of said compressed gas, said meter having
30 means to indicate the future ullage in said container once it has equilibrated to a selected
temperature.

REMARKS

Claim 1 has been amended to place in the preamble the portion of the claim that is not
new. It now also better points to the concept that the indications of temperature are only
35 transient - exist only while a given temperature prevails. See line 2, page 2 of the specification.

SCUBA diving has been going on for scores of years. Divers getting their air containers
filled have always been concerned about getting good value when they pay for the filling of their

containers and they have always been concerned about how much air they might have for a dive when they leave the container-filling area. A mercury thermometer or a bimetal dial thermometer using a scale such as our invention proposes could have been accomplished many years ago. Color-changing indicators have been available as early as 1966. Yet, with the need present and the means available no others have proposed our invention. Thus, it cannot be dismissed as obvious.

Our invention is a new and useful improvement in the application of color-changing, temperature sensitive pigments by forming into numbers that correspond to various, chosen, future final (ending) temperatures and the resulting change in pressure of gas as the following: percentage of the initial pressure, percentage of the remaining pressure, the resulting pressure, or the drop in pressure when the container cools. This is what our specification and claims say - in other words. Our invention does not measure nor indicate temperature. It indicates future (when the container cools) ullage. It is our stroke of invention to produce a device, though activated by temperature, that indicates in terms of future ullage. We could choose to use a bimetal dial or any other temperature sensitive device and then to arrange for the device to read in terms of future ullage. Our new Claim 7 does not necessarily involve temperature sensitive film or paint.

The examiner's analysis of how Suzuki makes our invention obvious is traversed entirely. In much of his invention Suzuki does time/temperature monitoring; we do not. The examiner cites column 23 lines 11-41 which has no relationship to our invention. These lines describe a process. We do not claim nor disclose a process.

The examiner cites column 17 line 6 through column 20 line 8 of Suzuki. These lines describe reversible temperature indicators such as we would use. However, there are other products on the market such that our device is not dependent upon Suzuki as a source of reversible temperature indicators. We are patenting a new use for surface temperature indicators - not to determine and indicate temperature, but to indicate an important value that is affected by temperature.

As to obviousness, our invention is too many steps removed from surface temperature itself to be obvious. One first has to be aware of the long-felt need for defining ullage in a freshly loaded gas container. Then, one must think of applying Charles' Law, Boyle's concept and the common the gas law to storage containers in order to identify how to begin solving the problem in terms of temperatures created by adiabatic gas compression. None of this thinking has to do with temperature indicators such as Suzuki's, although we do finally implement ur

invention using, in a novel way, devices resembling Suzuki's.

The problem of disappointing gas fills for Scubba divers has long been known. While it has occurred to operators that cooling the gas bottle helps, nobody has thought of a way to let the diver know immediately as he receives his filled bottle what his fill will amount to when he
5 dives. None of this is taught by Suzuki, nor has anyone applied Suzuki the way we do even though his invention is dated 1989.

The examiner's point on page 3, second paragraph is traversed because "...any new and useful improvement thereof" is patentable according to the patent laws. We improve the inventions of Suzuki and others with the improvement of casting especially selected temperature
10 sensitive pigments numbers that indicate ullage. The result is useful. Unlike all of the others, our pigments indicate something other than temperature. That something is derived from the sophisticated principles of the gas laws.

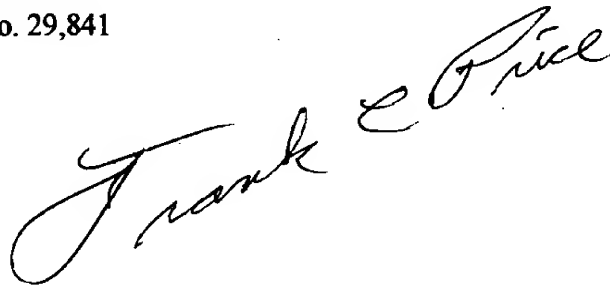
We hope this clarification satisfies the examiner and that our claims will be allowed.

15

Respectfully submitted,

Frank C. Price

Reg. No. 29,841

A handwritten signature in cursive script that reads "Frank C. Price". The signature is written in dark ink and is positioned below the typed name.

FRANK CHARLES PRICE
PATENT AGENT
13812 SANDHURST PLACE
SANTA ANA CA 92705

BOX NOV-FEE Amendment
Assist. Comm. for Patents
Washington DC 20531

11/11/11



Please type a plus sign (+) inside this box → ☐

PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
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<h1>TRANSMITTAL FORM</h1> <p>(to be used for all correspondence after initial filing)</p>	Application Number	09 / 900,188	
	Filing Date	07 / 09 / 2001	
	First Named Inventor	PAYNE	
	Group Art Unit	4856	
	Examiner Name	FRANK, R.T.	
Total Number of Pages in This Submission	4	Attorney Docket Number	—

ENCLOSURES (check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below): <div style="text-align: center;"> <p><i>Return Post Card</i></p> <p>SEP 12 2002</p> <p>RECEIVED</p> <p>TECHNOLOGY CENTER 2800</p> </div>
<div style="border: 1px solid black; padding: 5px;"> Remarks </div>		

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	FRANK C PRICE
Signature	<i>Frank C Price</i>
Date	

CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: <u>8-29-02</u>	
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Date	8-29-02

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